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ABSTRACT

This study examined the relationships among reading activities, rules for pupil participation, student engagement, and subsequent student achievement in reading lessons taught by student teachers (ST) and experienced teachers (ET). Two ST/ET dyads were observed and interviewed while they instructed third and fourth grade pupils in reading. The teachers in one dyad had similar participation structures; however, their subsequent student engagement and student achievement were different. While the participation structures of the second dyad differed, student engagement and achievement were alike. The contrasts between dyads indicated different levels of ability between the two student teachers. The differential effectiveness of the student teachers suggests that several factors may play important, interrelated roles in determining the success of novice teachers' reading instruction. The difference between these student teachers seemed to be explained best by their conceptions of their roles as student teachers, and the influence these conceptions had on their choice of participation structures and reading activities and their ability to implement these choices. These differences suggest that student teachers progress at different rates in the process of learning to teach. (JD)

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A NATURALISTIC INVESTIGATION OF
EXPERIENCED TEACHERS' AND STUDENT TEACHERS'
INSTRUCTIONAL PRACTICES

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and

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100-word abstract

A naturalistic investigation was conducted to describe the relationships among participation structures, reading activities, student engagement, and subsequent student achievement in reading lessons taught by student teachers (STs) and experienced teachers (ETs). Data sources included classroom observations, interviews with the participants, student teachers' journals, and students' comprehension test results. The teachers in one ST/ET dyad had similar participation structures; however, their subsequent student engagement and student achievement were different. While the participation structures of the second dyad differed, student engagement and achievement were alike. A major factor in explaining the differences was each student teacher's conception of her professional role.

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The purpose of this study was to describe the differences in reading instruction of experienced teachers and novice teachers. Specifically, the study examined the relationships among reading activities, rules for participation in these activities, student engagement, and subsequent student achievement in reading lessons taught by student teachers and experienced teachers.

BACKGROUND

Theoretical Framework and Research Strategies

Historically, two research paradigms have been used to study classroom processes -- process-product and sociolinguistic. The first body of research, process-product, focuses on teacher behaviors and instructional processes that facilitate student achievement (see, for example, Rosenshine, 1979). The second body of research, sociolinguistics, focuses on the use of language in classroom interaction (see, for example, Wilkinson, 1982). The following discussion outlines the conceptual basis of each of these paradigms, as well as some examples of how methods from the paradigms have been successfully merged.

Much of the research on school achievement has been conducted in the process-product tradition, using field-based correlational studies and related experiments to investigate teacher behaviors and instructional processes that facilitate student achievement (e.g., Rosenshine, 1979). Assumptions that undergird this paradigm include the notion that the teacher behavior (e.g., questioning, feedback) affects student behavior (e.g., time on task) which, in turn, affects student achievement. Further, teacher behavior, student behavior, and subsequent student outcomes can be measured

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and quantified. Typically, low-inference behavioral observation instruments have been used to record discrete instances of teacher and student behavior; achievement tests have been used to assess student outcomes (Dunkin & Biddle, 1974). After teacher behavior, student behavior and student outcomes have been measured and quantified, correlational analyses have been conducted to detect relationships among the three sets of variables.

The social organization of a classroom setting traditionally has been the domain of sociolinguists, who have employed ethnographic and microethnographic methods to study interactional patterns in classrooms (see Erickson & Shultz, 1981). Typically, these microethnographic studies have examined the linguistic patterns of teacher-pupil interaction to uncover the rules of successful student participation in the specific context. Research within this paradigm assumes that effective participation in classroom life requires the student to know more than academic knowledge; the student must also know how and when to offer or ask for knowledge (Peterson & Wilkinson, 1984). Classroom communication is structured by the teacher to facilitate the acquisition of information by students (Green, 1983). The structures, known as participation structures, are the rules for listening, responding, and turn-taking (Mehan, 1979). Moreover, each classroom context is unique; that is, each context is constituted by what people are doing and where and when they are doing it (Erickson & Schultz, 1981). To ensure their communicative competence, students must know the appropriate rules to apply in the various school contexts they encounter (Mehan, 1980). Those students who differ in their degree of communicative competence,

may find differential access to information and thus differential academic success (Diss, 1983).

In the effort to gain a richer description of teaching-learning processes, several recent studies have merged the methods traditionally found in sociolinguistic and process-product paradigms to examine the organization and processes within the classroom (e.g., Au & Mason, 1981; Peterson, Wilkinson, Spinelli, & Swing, 1984). These studies have examined variables common to both paradigms (e.g., student diversity, interactional processes) by using methods unique to each paradigm (e.g., linguistic analyses of classroom interaction, behavioral recording of classroom processes and subsequent student achievement), and focusing on different aspects of each variable. For example, in the realm of student diversity, sociolinguists have tended to focus on ethnicity, linguistic competence, and gender while process-product researchers have primarily examined academic ability and prior achievement. Studies merging methods from the two paradigms have examined the effects of academic ability and linguistic competence on classroom processes, to provide important new information regarding the interactive effects of these variables (e.g., Peterson et al., 1984). This interdisciplinary approach to the study of classroom interaction provides additional information to address research questions that have not been answered conclusively by research within a given approach.

Relevant Research

Our study focuses on the relationships between classroom variables and student achievement in reading. In a number of studies conducted in the process-product tradition, academic

engaged time has emerged as a factor related to student achievement. Academic engaged time occurs when the student attends to or participates in the appropriate school task (e.g., lecture, seatwork, discussion, reading aloud). Higher levels of engaged time on a relevant academic task at an appropriate level of difficulty have been consistently and positively related to achievement (Denham & Lieberman, 1980). Furthermore, the rate of students' academic engagement is higher when the students are actively participating in a teacher directed lesson than when they are working independently (e.g., Delquadri, Greenwood, & Hall, 1979; Fisher et al., 1978).

Several microethnographic studies have provided information about the relationships between patterns of teacher-student and student-student interaction and academic engaged time (Cazden, 1981). For example, McDermott and Aron (1978) found that engaged time and interactional patterns differed during the reading lessons of top and bottom ability groups. Upon closer examination of the interactional patterns, McDermott and Aron demonstrated that the two ability groups constituted two different interactional environments, in which the students' attention was focused on two different kinds of problems. The interactions in the top reading group centered around discussing the reading activities, while the interactions in the bottom group were related mainly to management or discipline. The focus on content was associated with higher academic engagement rates than the focus on management and discipline.

In a study which merged methods from the process-product and sociolinguistic traditions, Au and Mason (1981) reported that

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participation structures and reading activities were associated with student achievement-related behavior (e.g., academic engaged time, number of correct student responses). Moreover, they found that a teacher who was more familiar with students and their culture was more proficient in establishing effective participation structures, maintaining high levels of student engagement, and eliciting a greater number of correct student responses than a teacher who was unfamiliar with the students and their culture. These differences were attributed to differences in familiarity with culture.

We hypothesized that a comparable difference in proficiency might exist between experienced teachers (who have had an opportunity to work with the students) and student teachers (who have been in the specific class context for a relatively short period of time). This hypothesis receives support from both an ethnographic and an information processing perspective. From an ethnographic perspective, Wolcott (1975) views education as a cultural process in which all new members must learn how to act appropriately and contribute to educational maintenance and improvement. As student teachers are relatively new members to the classroom context, it seems logical that they must learn the rules that guide their role as a teacher. From an information processing perspective, Doyle (1979) asserts that teachers must construct a classroom knowledge of how to predict and manage student behavior through task planning and interaction arrangements (i.e., participation structures). Automaticity of management strategies by the teacher, as well as the students, facilitates the classroom interactional processes (Yinger, 1980). The classroom processes of

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a student teacher who has not developed this classroom knowledge clearly are not automatic and may be susceptible to breakdowns from interruptions and from students who seem uncooperative. Moreover, if the student teacher has not developed the rules, then the students have no way to uncover the rules for successful participation. Clearly, a student teacher who had not conceptualized her rule structure cannot effectively orchestrate the participation structures in her lessons.

Research Questions

Based on Au and Mason's study and on the arguments by Wolcott, Doyle, and Yinger, we hypothesized that student teachers and experienced teachers would differ in their proficiency in establishing and orchestrating effective participation structures. We further speculated that this difference would be reflected in student engagement and, ultimately, student achievement. Our specific research questions were:

1. Are there differences in the participation structures and reading activities that are manifested in the classroom teaching of experienced teachers and student teachers?
2. Are there differences in the amounts of time students spend engaged in reading tasks during lessons taught by experienced teachers and student teachers?
3. Are there differences in student achievement in lessons taught by experienced teachers and student teachers?
4. What are the relationships among participation structures, reading activities, student academic engagement, and student achievement in lessons taught by experienced teachers and student teachers?

METHOD

Research Setting and Sample

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Two student teacher (ST)/experienced teacher (ET) dyads participated, one in a third grade reading class and the other in a fourth grade reading class. The STs were in the middle of a ten-week student teaching experience that represented the culmination of a year-long field experience. The ETs were the head teachers of their grade level teams, and each had seven years of teaching experience. The ET and ST comprising each dyad taught the same intact class. The students, all from an upper middle socio-economic background, were in the high ability reading groups for their grade levels. This was a purposive sample (Denzin, 1978) in which socio-economic status and reading ability were held constant. These controls were considered vital as previous research has found that different interactional patterns exist across reading ability group levels (for a review, see Allington, 1983 or Hiebert, 1983) and across varying backgrounds (McDermott, 1974; Au & Mason, 1981). Due to the constraints of student teaching assignments and the need to minimize age differences of students (Cole & Means, 1981), third and fourth grade classes were chosen as the participants.

Research Procedures

With its focus on naturally occurring events in the classroom, this study merged methods from two research traditions -- sociolinguistic ethnography and process-product. From the ethnographic tradition, we employed microethnographic methods to examine classroom interactional patterns (Erickson & Shultz, 1981; Mehan, 1979), and ethnographic interview techniques to determine participants' perspectives on the social organization of their reading lessons (Spradley, 1979). From the process-product

tradition, we employed a behavioral observation system to record reading activities and student engagement during reading lessons (Herbert & Attridge, 1975).

Data collection . Data were collected in May, 1984, during the fifth and sixth weeks of the formal student teaching experience. Due to differences in the scheduling of reading lessons in the third and fourth grades (i.e., two 2-lesson story cycles were taught each week in the third grade; one 2-lesson story cycle was taught each week in the fourth), eight lessons were observed in the third grade and four in the fourth grade.

Audiotapes, videotapes, and notes from live observations of the twelve reading lessons provided the data with which to describe rules for participation and patterns of teacher-student interactions. Reading activities and students' on-task engagement rate were recorded using a behavioral observation instrument. The entire class was scanned and the academic engagement behavior of each student was recorded using one-minute recording cycles. The criterion for academic engagement was orientation to the teacher or the task. Interviews were conducted with each ST and ET to obtain further information about her lessons (e.g., use of turn-taking rules, perceptions of differences and similarities between her lessons and the lessons of her partner in the dyad). Student teacher journals and Researcher journals provided additional insight into the student teachers' conceptions of student teaching.

Student scores on comprehension tests were obtained as indicators of student achievement. Tests used in the third grade were comprised of all comprehension questions for the specific stories taught during the observed lessons that were included in

the basal series unit test. In the fourth grade, tests were constructed by the ET and also consisted of comprehension questions based on the stories taught during observed lessons. The teachers within each dyad, along with one of the researchers, compared (qualitatively) the comprehension tests used within that dyad for item difficulty. No differences were found.

Data analysis . An ethnographic analysis (i.e., domain, taxonomic, and componential; Spradley, 1979) of teacher interviews was conducted to ascertain the participants' perspectives on their participation structures and the instructional events of their lessons. To identify and describe the patterns of participation structures, all interactional segments (i.e., oral reading, discussion, listen/lecture) from each videotaped lesson were examined. Using microethnographic analysis techniques (Erickson & Shultz, 1981; Mehan, 1979), interactions were then coded according to form (e.g., teacher orientation to single student or class, student call-out, student volunteer), and content (e.g., question, correct response, incorrect response, behavioral sanction), preserving the naturally occurring sequences. Percentages of time teachers spent in different reading activities were calculated by dividing the number of intervals during which a particular reading activity was recorded by the total number of intervals recorded during the interactive segments of each teacher's lessons. T-tests for dependent samples were run within each dyad to determine whether there were differences in student engagement and/or achievement for the lessons taught by the two teachers in that dyad.

RESULTS AND DISCUSSION

The distinctions between experienced teachers and student teachers with regard to reading activities, participation structures, and student achievement were more complex than we hypothesized. ET3 and ST3 did not differ in the way they taught (i.e., kinds of reading activities and participation structures); however the outcomes of their teaching (i.e., number and kinds of student behavior that were sanctioned, student academic engagement and achievement) were different. In contrast, ET4 and ST4 used different reading activities and interactional styles, but their teaching resulted in similar student outcomes. Because of these contrasts, we decided to examine the data for differences between the student teachers, as well as differences between the experienced teacher and student teacher within each dyad. Results of these analyses are presented below in terms of each dependent variable.

Reading Activities and Participation Structures

The third grade dyad. The teachers in the third grade dyad (ET3 and ST3) used similar reading activities and spent comparable amounts of time in each activity (see Table 1). Both presented the major part of the lesson using a whole group discussion format interspersed with independent work (e.g., silent reading, worksheets, workbooks). ET3 and ST3 also employed similar participation structures (see Table 2). In the majority of instances, each teacher called on students, either volunteers (i.e., hand-raising) or non-volunteers (i.e., teacher nomination), to respond to teacher questions. The acceptable turn-taking rule depended upon the position of the teacher and the presentation of the question. For example, both ET3 and ST3 accepted call-outs

when they were oriented away from the class. ET3 also accepted call-outs during a unique motivational activity used to introduce one of the stories. (In fact, this activity accounted for 103 of the 137 [75%] disruptive or non-content related call-outs that occurred during ET3's lessons.)

Insert Tables 1 and 2 here

While their rule structures were similar, ST3 was less effective in enforcement of the rules than was ET3, as indicated by the greater number of sanctions delivered during her lessons (86 versus 28, during three hours of interactive reading activity, see Table 3). Close examination of the interviews and interactional sequences offered several possible explanations for this difference. ET3 seemed to have a clearer sense of her rules, as evidenced by the fact that she could articulate the situations in which she accepted call-outs while ST3 could not. Further, in talking about her teaching, ST3 was ambivalent about the enforcement of participation rules. As she stated, "Sometimes they'll [students] say things, and I'll want to go ahead and pick up on something they just said, but... I'm not sure all the time about acknowledging them when they didn't raise their hand..." This ambivalence was reflected in an observed inconsistency in rule enforcement.

Differences in the nature of the student behavior sanctioned by ET3 and ST3 further illustrate a differential level of effectiveness between the two teachers (see Table 3). The two kinds of behaviors that received sanctions during the observed

reading lessons were: (a) attempts to participate (e.g., calling out information); and (b) student misbehavior (e.g., playing with toys, talking with another student). Of the 28 sanctions recorded during ET3's four lessons, 22 were related to students' attempts to participate while 6 were related to student misbehavior. Of the total of 86 sanctions recorded for ST3, 36 were related to participation and 50 were related to misbehavior.

Insert Table 3 here

Further examination of ET3's sanctions indicated that 17 of the 22 related to participation occurred during the lesson mentioned earlier, in which ET3 conducted an activity unlike the activities during the other seven lessons observed in the third grade setting. This activity was designed to enhance the students' awareness of the story's theme--visually handicapped children. In it, students were experimenting with and discussing what it would be like to be blind. While the context of the usual reading lesson had changed, ET3 was still trying to impose the same rule structure typically used in lessons that involved discussion strictly related to the text. The students apparently had a different notion of the appropriate way to participate than was expected by ET3, as evidenced by the increased number of call-outs and subsequent sanctions. We can speculate that if this lesson had been similar to the other lessons taught by ET3, her total number of call-outs and sanctions would have been lower.

The number and kinds of sanctions delivered by ST3 varied across her four lessons (see Table 3). While it is apparent that

students were sanctioned for attempting to participate in an inappropriate manner, of particular interest is the number of occasions in which students seemingly chose not to participate, as evidenced by their misbehavior (e.g., reading a comic book held under a desk, playing with trucks during a reading circle activity, talking with a neighbor). The fact that 50 of her sanctions were delivered to students who had chosen not to engage themselves in the lesson suggests that ST3 had difficulty in maintaining student participation. In contrast, while numerous sanctions were imposed by ET3, those sanctions were the result of students who were trying to participate in the reading activity.

The fourth grade dyad. The fourth grade teachers (ET4 and ST4) used different reading activities (see Table 1). ET4 preferred to lecture briefly, then have students engage in independent work for the majority of reading class time. ST4 preferred more interactional activities, spending more time "asking them [the students] to respond." ET4 and ST4 also employed different participation structures during interactional segments of lessons (see Table 2). ST4 enforced hand-raising as a means of gaining the floor and often called upon non-volunteers. She explained, "I find that keeps them on their toes a little bit more." When ET4 did hold discussions, she also required students to raise their hands; however, she seldom nominated non-volunteers.

As was true for the third grade dyad, there were differences in the number of sanctions delivered by the two fourth grade teachers (see Table 3). During the 21 minutes of interactive reading activities observed in ET4's lessons, two sanctions were recorded, both related to behavior. In contrast, during the 50

minutes of interactive reading activities observed in ST4's lessons, 18 sanctions were recorded. Six sanctions occurred following student attempts to participate; 12 were related to student misbehavior. While differences within the dyad do exist, they can be partially accounted for by the different activities (i.e., contexts) created by the two teachers. The interactive portions of ET4's lessons were extremely structured, resulting in only 49 interactional exchanges between ET4 and the students. ST4 employed more discussion activities, resulting in 243 interactional exchanges. Hence, unlike in the third grade dyad, the differences in number and kinds of sanctions imposed by the fourth grade dyad did not necessarily reflect differences in effectiveness, but instead, may have reflected differences in the activities conducted by ST4 and ET4.

Student Academic Engaged Time and Achievement

The third grade dyad. A significant difference ($t [7] = 3.08$, $p < .05$, two-tailed) was found between the students' academic engagement during interactive segments of lessons taught by ET3 and ST3. In ET3's lessons, students were engaged 93% of the time; in ST3's lessons, students were engaged 85.5% of the time. These results, coupled with the data on sanctions delivered by ET3 and ST3, support McDermott and Aron's (1978) findings that lower academic engagement rates were associated with teacher-student interactions which focused on discipline as opposed to reading content.

On the comprehension tests, students scored significantly higher ($t [20] = 5.77$, $p < .01$, two-tailed) on the material taught by ET3 (90%) than by ST3 (68.6%). The pattern of differences in

student engagement and academic achievement in this study corroborates the positive relationships found in previous research (Denham & Lieberman, 1980).

The fourth grade dyad. The percentage of student engaged time was identical for lessons taught by ET4 and ST4. The students were oriented to either the teacher or the task 86.5% of the time. On the comprehension tests, the mean score on the material taught by ET4 was 96%; on the material taught by ST4, it was 93%. These differences were not statistically significant ($t [26] = 1.23$, $p > .05$, two-tailed). Again, as the research would predict, similar percentages of engaged time were related to similar in achievement test performances. Interestingly, ET4's greater use of independent work was not associated with lower engagement rates found in the work by Fisher and colleagues (1978).

Relationships among Reading Activities, Participation Structures, Engaged Time, and Achievement

To summarize, the teachers in the third grade dyad used similar reading activities and participation structures; however, they differed in number and kinds of student behavior that were sanctioned, student engagement, and student achievement. Thus, while the lessons of ET3 and ST3 appeared to follow the same rule structure, the degree of success with which the teachers implemented the rule structure and facilitated student engagement and achievement differed. On the other hand, while the fourth grade teachers' reading activities, participation structures, and numbers of sanctions differed, student engagement and achievement were similar. Although their rule structures and styles of classroom interaction were different, these teachers seemed to be

equally effective in maintaining student engagement and facilitating student achievement.

These contrasts between dyads indicate the differential effectiveness of the two student teachers. As measured by number and kinds of sanctions, student engagement, and student achievement, ST4 was more successful in teaching the observed reading lessons than was ST3. One possible explanation for the differences in effectiveness may lie in the way each ST approached her role as a student teacher. ST3 chose to emulate ET3's style of interaction and her choice of activities. For example, when asked why she chose to have the students read orally, ST3 stated, "I've noticed that she [ET3] has them read every once in a while orally, that's why I did it yesterday." When asked about similarities and differences in their activities and rule structures, ST3 stated, "I find them real similar... I don't feel that mine are as organized, um, we both do the same thing." In contrast, ST4 chose to employ her own teaching strategies. She stated that while her goals and objectives were the same as ET4's, she chose to use those interactional styles and teaching activities that she felt worked best for her.

Differences in ST3's and ST4's conceptions of their roles were also reflected in the relationship each wished to have with her students. ST3's major goals were to have a positive interpersonal relationship with her students and to ensure that students enjoyed being in her classroom. ST4 was more concerned that students perceive her as an authority figure and obey her rules. During an informal interview, ST4 related an anecdote in which a student asked her if she was a student teacher. After she replied, "Yes,"

the surprised student commented, "You can't be! You don't let us get away with anything. You're such a professional!"

These patterns in the data suggest that the differences in student teacher effectiveness, as measured by teacher sanctions, student academic engagement, and student achievement, may have been a result of the success with which each student teacher implemented the participation structures she selected. This differential success, in turn, may have been a function of the fact that ST4 was employing her own teaching strategies and interactional styles and attempting to establish herself as an authority figure in the classroom, whereas ST3 was attempting to emulate the teaching of ET3 and to maintain a positive interpersonal relationship with her students.

One reason for these differences between the student teachers may be that ST4 had progressed further in her development as a teacher by the time of data collection, despite the fact that both student teachers had spent equal amounts of time in classrooms. This interpretation is supported by the studies conducted by Griffin and colleagues (1983), Hoy (1968), Hukill and Hughes (1983), Jones (1982), Mahan and Lacefield (1978), and Zeichner and Tabachnick (1983). Specifically, these groups of researchers found that student teachers in the beginning of their student teaching experience were concerned with maintaining positive interpersonal relationships with their students. Toward the end of their experience, they became more concerned with their role as an authority and the effectiveness with which they enforced rule structures. Clearly, ST3 seemed more like student teachers with little classroom experience, whereas ST4's behaviors and thoughts

were more similar to those of student teachers at the end of their student teaching experience. Further, ST4's greater ability to articulate and implement participation structures suggests a better developed understanding of the structuring of classroom activities (Doyle, 1979; Yinger, 1980).

CONCLUSIONS

The differential effectiveness of the student teachers in this study suggests that several factors may play important, interrelated roles in determining the success of novice teachers' reading instruction. Specifically, the success of these student teachers, as measured by student engagement and achievement, seemed to be explained best by their conceptions of their roles as student teachers and the influence these conceptions had on their choice of participation structures and reading activities and their ability to implement these choices. Further, these differences in role conceptions, teaching strategies, and teaching effectiveness, when viewed within a developmental framework, suggest that student teachers progress at different rates in the process of learning to teach.

While this study provides insight into the process of learning to teach reading, several questions remain unanswered. For example, what characteristics of student teachers, cooperating teachers, or the match between a student teacher and cooperating teacher facilitate learning to teach? What guidance can cooperating teachers provide to help student teachers choose and implement reading activities and participation structures that will be successful for them?

This study's generalizability is limited due to factors such

as sample size, number of observed lessons, and range of ability and age of students. However, we believe that the findings, conclusions, and questions warrant further investigation of student teacher/experienced teacher dyads in different contexts and across the entire clinical field experience. For example, identification and description of changes in interactional patterns over time would offer additional insight into teaching as a developmental process. Such investigations, by increasing our understanding of the complex and individualized process of becoming a teacher, should help teacher educators to design appropriate, effective teacher preparation programs.

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Table 1. Percentage of Time Each Teacher Spent in Various Kinds of Reading Activities

	Grade 3		Grade 4	
	ET3	ST3	ET4	ST4
Interactive:				
Oral Reading				
Discussion	61	61	23	55
Listen/Lecture				
Independent:				
Silent Reading	27	29	68	35
Worksheets/Workbooks				
Non-Reading:				
Management	12	10	9	10
Affective				

Table 2. Percentage of Participation Structures Occurring in the Interactive Phases of Each Teacher's Reading Lessons

	ET3 ¹	ST3 ²	ET4 ³	ST4 ⁴
Teacher nomination (non-volunteer)	32	30	4	24
Hand-raising (volunteer)	23	31	88	56
Call-out answer to teacher question	11	13	6	5
Call-out content-related information	11	7	0	7
Call-out non-content related or disruptive	18	9	2	5
Call-out for nomination	3	8	0	1
Call-out content-related question	2	1	0	2
Walk up to teacher	.1	.2	0	0

¹Based on three hours of interactive reading activity and 792 interactional sequences across four reading lessons.

²Based on three hours of interactive reading activity and 823 interactional sequences across four reading lessons.

³Based on 21 minutes of interactive reading activity and 49 interactional sequences across two reading lessons.

⁴Based on 50 minutes of interactive reading activity and 243 interactional sequences across two reading lessons.

Table 3. Number of Sanctions and Kinds of Behaviors Sanctioned by Each Teacher during Interactional Segments of Reading Lessons

Lesson	ET3			ST3			ET4			ST4		
	P ¹	B ²	T ³	P	B	T	P	B	T	P	B	T
1	4	2	6	10	13	23	0	1	1	2	5	7
2	0	1	1	6	2	8	0	1	1	4	7	11
3	17	2	19	13	26	39	-	-	-	-	-	-
4	1	1	2	7	9	16	-	-	-	-	-	-
TOTAL	22	6	28	36	50	86	0	2	2	6	12	18

¹P = sanctions related to student attempts to participate which violate the teacher's general rule structure (e.g., calling out during teacher nomination).

²B = sanctions related to misbehavior (e.g., student playing with toys during discussion).

³T = total sanctions during interactional segment.

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